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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/766,253	01/28/2004	Clifford H. Ray	021120.0040.000	4153
7590	01/13/2006		EXAMINER	
Mark A. Tidwell Jackson Walker L.L.P. Suite 2100 112 E. Pecan Street San Antonio, TX 78205-1521			HUGHES, SCOTT A	
			ART UNIT	PAPER NUMBER
			3663	
DATE MAILED: 01/13/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/766,253	Applicant(s) RAY ET AL.	
	Examiner Scott A. Hughes	Art Unit 3663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 8/20/2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-108 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☒ Claim(s) 97-101 is/are objected to.
- 8) ☒ Claim(s) 1-108 are subject to restriction<sup>\*</sup> and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Claim Objections***

Claims 97-101 objected to because of the following informalities: Claims 97-101, which are method claims, are written as being dependent upon claim 95, which is an apparatus claim. These claims should be written to depend from method claim 96, not claim 95. For the purposes of this action and for the groupings of claims in the following restriction requirement, claims 97-101 will be examined as if they depend from claim 96. Appropriate correction is required.

### ***Election/Restrictions***

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-29, 69-71, and 91-92, drawn to a seismic data collection unit, classified in class 367, subclass 178.
- II. Claims 30-31, drawn to a rubidium clock, classified in class 331, subclass 94.1.
- III. Claims 32-33, drawn to a seismic data collection unit with a tilt meter and compass, classified in class 367, subclass 129.
- IV. Claims 34-43 and 96-105, drawn to a method for acquiring seismic data, classified in class 367, subclass 37.
- V. Claims 44-57, drawn to a method for utilizing a seismic recording unit, classified in class 702, subclass 14.

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- VI. Claims 58-68, drawn to a method for determining the location of a seismic recording unit, classified in class 367, subclass 120.
  - VII. Claims 72-73, drawn to a method for measuring seismic data in two planes in the x,y,z coordinate unit, classified in class 367, subclass 40.
  - VIII. Claims 74-78, 81-82, 85-86 and 106-107 drawn to a method for utilizing a seismic recording unit using a tilt meter, classified in class 367, subclass 56.
  - IX. Claim 79-80 and 83-84, drawn to crystal aging curves used with seismic data, classified in class 367, subclass 50.
  - X. Claims 87-90, drawn to a method for monitoring coupling between a recording unit and the earth, classified in class 367, subclass 14.
  - XI. Claims 93-95, drawn to a seismic data collection unit having a gimbaled platform, classified in class 367, subclass 188.
  - XII. Claim 108, drawn to an additional geophone in a case, classified in class 367, subclass 182.
1. The inventions are distinct, each from the other because of the following reasons:
  2. Inventions IV/V/VI/VII/VIII/IX/X and I/II/III/XI/XII are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the

apparatus could be used for a different process, such as collecting seismic data from naturally occurring events, such as earthquakes or volcanic eruptions.

3. Inventions I and II are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the clock of the combination does not need to be a rubidium clock, but instead could be any other type of clock. The subcombination has separate utility such as an atomic clock.
4. Inventions I and III are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the combination does not need orientation sensing devices associated with the unit. The subcombination has separate utility such as determining the orientation of a seismic sensing unit.

5. Inventions I and XI are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the combination does not require a gimbaled platform. The subcombination has separate utility such as a device used in a navigational system.
6. Inventions I and XII are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the combination does not require a removed geophone and vibration of the casing. The subcombination has separate utility such as a device to test coupling of a geophone to the earth by vibrating the casing.

7. Inventions II, III, XI and XII are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, invention II has separate utility such as an atomic clock. Invention III has separate utility such as a device used to determine orientation. Invention XI has separate utility such as a device used in a navigational system. Invention XII has separate utility such as a device to test coupling of a geophone to the earth by vibrating the casing. See MPEP § 806.05(d).
8. Inventions IV and V are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the combination does not need a memory media that records while the unit is deployed and after retrieval. The subcombination has separate utility such as a memory for recording seismic data in a seismic streamer section.
9. Inventions IV and VII are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for

patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the combination does not require two geophones nor does it require measuring seismic data in at least two planes in the x,y,z coordinate unit. The subcombination has separate utility such as a device independent of clocks to measure seismic data in a specified coordinate system.

10. Inventions IV and VIII are related as combination and subcombination.

Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the combination does not require a tilt meter or measuring the orientation. The subcombination has separate utility such as determining the orientation of any seismic receiver such as an OBC receiver.

11. Inventions V, VII and VIII are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, invention V has separate utility such as a memory for recording seismic data in a seismic



streamer section. Invention VII has separate utility such as a device independent of clocks to measure seismic data in a specified coordinate system. Invention VIII has separate utility such as determining the orientation of any seismic receiver such as an OBC receiver. See MPEP § 806.05(d).

12. Inventions IV/V/VII/VIII and VI are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions have different functions. The inventions are related to acquiring seismic data and determining location of a recording unit respectively.

13. Inventions IV/V/VII/VIII and IX are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions have different functions of acquiring seismic data and correcting seismic data for crystal aging time.

14. Inventions IV/V/VII/VIII and X are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP §

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806.04, MPEP § 808.01). In the instant case the different inventions have different functions of acquiring seismic data and monitoring the coupling of a recording unit with the earth.

15. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

16. Upon election of Group I, applicant is further required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable (currently no claim is generic):

A. Number of geophones (e.g. one geophone only <sup>OR</sup> four geophones only).

17. Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

18. Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37

CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

19. Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

20. Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

21. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

22. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott A. Hughes whose telephone number is 571-272-6983. The examiner can normally be reached on M-F 9:00am to 5:30pm.


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Keith can be reached on (571) 272-6878. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



SAH



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